

REMARKS

Claims 1-17 are pending in the application. Claims 1-10, previously withdrawn from consideration by way of an earlier-filed Election, have been canceled without prejudice herein. Applicant reserves the right to file a divisional application on these non-elected claims.

Claims 11 and 13-17 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner opines that certain subject matter in the claims, namely "high temperature spraying" in base claim 11, was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor at the time the application was filed had possession of the claimed invention. The Examiner states that "high temperature spraying" is not fully supported by the originally-filed specification which specifically discloses high temperature arc spraying, plasma spraying, or oxyacetylene spraying but not any and all kinds of spraying encompassed by the term "high temperature spraying". While Applicant disagrees with the Examiner, claim 11 has nevertheless been amended by deleting the phrase "by high temperature spraying" in paragraph (c) of claim 11. Hence, it is believed that this ground of rejection has been overcome by way of amendment.

Claims 11-17 also stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite through the use of the phrase "upstanding sharp peaks". The Examiner contends that such language renders the claim indefinite because it is unclear how "sharp" or "dull" the peaks must be in order to be considered "sharp" within the context of the invention. The Examiner notes that while claim 16 recites an after smoothing surface roughness of 10 ra, there is no definition of before smoothing surface roughness. The phrase "upstanding sharp peaks" is used in the specification, see, for example, paragraph [0026] of the published application, which uses the quoted phrase and also further states that this is "typical of metal ceramic plasma sprayed coatings." Hence, persons skilled in the art would clearly understand the meaning of the quoted phrase. Nevertheless, Applicant has amended claim 11 to delete the word "sharp" in paragraphs (c) and (f) thereof to provide that the metal ceramic layer has a plurality of upstanding peaks in paragraph (c) of claim 11, and in paragraph (f) the impregnated metal ceramic layer

is smoothed by removing the upstanding peaks of metal ceramic to provide a non-stick surface defined by flat bare metal ceramic portions and flat impregnated cured release agent areas substantially co-planar therewith. It is submitted that claims 11-17 now satisfy the requirements of 35 U.S.C. §112, first and second paragraphs.

Claims 11-17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,204,021 to Becker in view of U.S. Patent No. 6,360,423 to Groll and U.S. Patent No. 5,320,879 to Bullock. The Examiner explains that Becker and Groll are applied in this Office Action for the same reasons as set forth in the prior Office Action of September 20, 2006. Applicant respectfully traverses this ground of rejection and requests reconsideration in view of the following comments.

Applicant's invention as defined in claim 11, as amended, is directed to a method for making cookware having a non-stick surface comprising the steps of:

- (a) providing a substrate in a desired cookware configuration;
- (b) preparing a surface of the substrate to remove dirt, grease, or other surface impurities;
- (c) applying a metal-ceramic layer to the prepared surface of step (b) to provide a controlled porosity of between about 5-15% by volume in said metal-ceramic layer and having a plurality of upstanding peaks;
- (d) vacuum impregnating pores of said metal-ceramic layer with a liquid release agent;
- (e) thermally curing the impregnated liquid release agent; and
- (f) smoothing the impregnated metal-ceramic layer by removing the upstanding peaks of metal ceramic to provide a non-stick surface defined by flat bare metal-ceramic portions and flat impregnated cured release agent areas substantially co-planar therewith.

The Examiner, in the latest Office Action, does not in any detail address step (f) pertaining to the step of smoothing the impregnated metal-ceramic layer by removing the upstanding peaks of metal ceramic to provide a non-stick surface defined by flat bare metal-ceramic portions and flat impregnated cured release agent areas substantially co-planar therewith. The Examiner concentrates in the Office Action on combining Becker and Bullock to show that silicon dioxide and


consequently the glass frit of Becker is capable of being deposited by "high temperature" spraying. As noted above, this "high temperature" limitation has been deleted from base claim 11. The Examiner further states that Becker teaches a 15% porosity at column 4, lines 3-6. It should be noted for clarity purposes that Becker, in fact, teaches a porosity range of from 15% to 55% and preferably from 22% to 42% porosity in the porous ceramic coat. Applicant, on the other hand, in step (c) provides a controlled porosity in the metal-ceramic layer of between 5% to 15% by volume. Claims 14 and 17 actually specify a porosity of 7% by volume in the metal-ceramic layer. It is submitted that Applicant's porosity is significantly lower than that taught by Becker. Even though the upper range of Applicant's porosity of 15% finds the same end point as the lower range of 15%-55% of Becker, it is submitted that these ranges are vastly different and would impart a different understanding to those skilled in the art.

Most importantly, however, none of the prior art teaches or fairly suggests step (f) of claim 11 of smoothing the impregnated metal-ceramic layer by removing the upstanding peaks of metal-ceramic to provide a non-stick surface defined by flat bare metal-ceramic portions and flat impregnated cured release agent areas substantially co-planar therewith. The Examiner's previous (and current) reliance on Groll in the Office Action of September 20, 2006, was based on the improper reading of Groll, namely, the Examiner stated on page 4 of that Office Action: "With respect to step (f), Groll teaches that a smooth cookware surface is desirable to further enhance the non-stick properties thereof and that a cookware surface may be polished to achieve this [3:36-60]. Consequently, it would have been obvious to one of ordinary skill in the art to modify the process of Becker so as to smooth the impregnated metal-ceramic layer so as to further enhance the non-stick properties thereof" [Emphasis supplied]. Groll nowhere teaches that the cookware surface should be polished after plasma spraying to further enhance the non-stick properties thereof, as stated by the Examiner. To the contrary, Groll teaches, at col. 3 lines 36-60, that the cookware substrate should be polished prior to plasma coating with zirconium nitride. The plasma sprayed zirconium nitride layer forms the cookware surface. The polished substrate is not the cookware surface in Groll. Consequently, Groll does not teach step (f). Further, it is clear that the non-stick

surfaces of Groll of the present invention are significantly different. Groll teaches a non-stick cook surface of a non-porous plasma sprayed zirconium nitride layer. There is no impregnation or smoothing operation, buffing, et cetera, applied to the zirconium nitride surface after its application in the Groll reference. The present non-stick surface comprises a sprayed layer of metal-ceramic having pores vacuum impregnated with a liquid release agent and thermally cured and subsequently smoothed to remove the upstanding peaks of metal-ceramic to provide a non-stick surface defined by flat bare metal-ceramic portions previously occupied by the upstanding peaks and flat impregnated cured metal release agent areas substantially co-planar with the flattened metal-ceramic portions. Clearly, step (f) is not taught or suggested by Groll. The Becker patent, likewise, does not teach or suggest step (f) of claim 11.

Applicant submits that claim 11 as amended represents a patentable advance over the cited prior art. Claims 12-17 depend from base claim 11 and are, likewise, deemed to be in condition for allowance. The Examiner's reconsideration and favorable action with respect to claims 11-17 are respectfully requested.

Respectfully submitted,
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